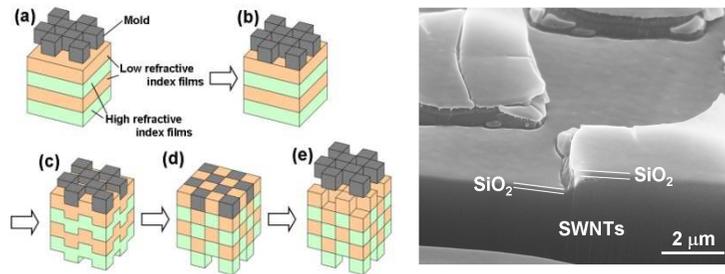


We develop high-throughput replication technique for large-area optical devices such as displays, lighting equipment, and gas sensors.

## High-speed shearing of three-dimensional photonic crystals



S. Maruyama

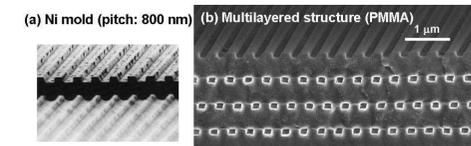
T. Hamaguchi et al., *J. Vac. Sci. Technol. B* 26 (2008) 1771.

## Roller imprinting of multilayered optical sensors



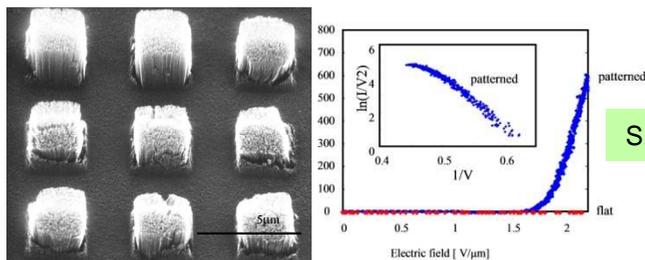
J. -J. Delaunay

I. Yamada



K. Nagato et al., *Microelectron. Eng.* 87 (2010) 1543.

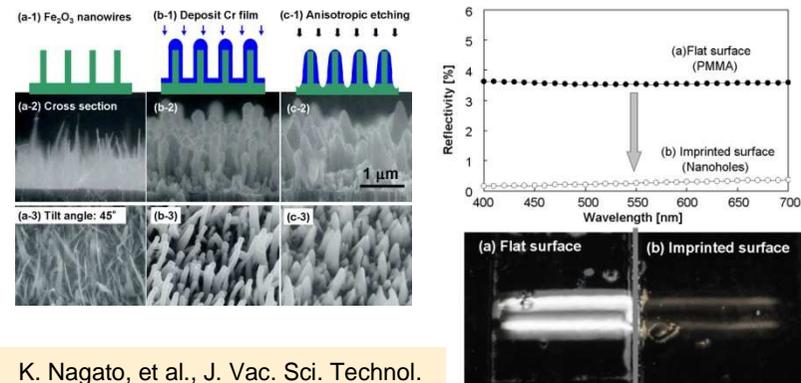
## Pressing CNT field emission devices



S. Maruyama

K. Nagato et al., *Microelectron. Eng.* submitted.

## Replication of antireflection structures using nanowires



S. Ishihara

K. Nagato, et al., *J. Vac. Sci. Technol. B* 28 (2010) L39.